

REMARKS/ARGUMENTS

In the Office Action mailed October 5, 2004, claims 1-21 were rejected. Claims 1-6 have been cancelled without prejudice or disclaimer. Claims 7, 14 and 18 are independent. Claim 7 has been amended. Applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action. All the pending claims at issue are believed to be patentable over the cited references.

CLAIM REJECTIONS – 35 U.S.C. § 112

Examiner rejected claims 1-6 under 35 U.S.C §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In light of the amendment to claims, Applicant hereby respectfully requests that the rejection to these claims be removed.

CLAIM REJECTIONS – 35 U.S.C. § 103(a)

The Examiner rejected claims 1-21 under 35 U.S.C. § 103(a) as being obvious over United States Patent No. 4,827,197 to Giebeler in view of United States Patent Nos. 6,679,820 or 6,368,265 to Barkus *et al.* (hereinafter referred to as "Barkus").

The Examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. *MPEP* §2142. To establish a prima facie case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, to modify the references or to combine reference teachings. Second, there must be reasonable expectation of success. Finally,

the prior art must teach all the claim limitations. *MPEP* §2142. The Giebeler and Barkus references fail to teach or suggest all the claim limitations of the present application.

Applicants respectfully point to the final prong of the test, which states the prior art must teach all the claim limitations. At the very least, the combined references do not teach all of the limitations of independent claims 7, 14 and 18 because of the arguments set forth below.

Applicants note that the independent claim 7 has been amended to explicitly state that which was implicitly in the original claim language. As such, the claims has not been narrowed.

Claim 7 recites, *inter alia*, a modulation controller configured to modulate an amount of torque generated by the motor and thereby modulate the rotational speed of the rotor; a speed sensor configured to sense the rotational speed of at least one of the motor and the rotor, and transmit the sensed rotational speed to the controller; and wherein the controller is configured to determine an amount of kinetic energy associated with the rotor in response to the amount of torque and the sensed rotational speed, and is configured to compare the amount of kinetic energy associated with the rotor to a predetermined amount of kinetic energy, the controller being further configured to reduce the rotational speed of the motor in response to the compared amount of kinetic energy associated with the rotor being greater than the predetermined amount of kinetic energy. (See paragraphs 24 and 29 of the specification.)

Claim 14 recites, *inter alia*, means for modulating torque being applied to the rotor in response to the first kinetic energy exceeding the predetermined amount of kinetic energy, wherein the rotor is spun at a relatively slower rotational velocity than the first rotational velocity.

Claim 18 recites, *inter alia*, the step of modulating torque applied to the rotor in response to the first kinetic energy exceeding the predetermined amount of kinetic energy wherein, the rotor is spun at a relatively slower rotational velocity than the first rotational velocity.

However, Giebeler shows a device for computing the moment of inertia of a rotor and is silent on any modulation control teachings. Giebeler primarily teaches calculating the moment of inertia to provide a form of “finger print” for each rotor available and to exclude those rotor which may exceed any gross limits for the centrifuge.

Giebeler teaches away from modulating torque as presently claimed. In fact Giebeler states that it is preferred to hold torque and current constant in order to more easily compute torque and therefore moment of inertia (see Col. 7, lines 1-7). Thus, it cannot be said that Giebeler teaches or suggests the present invention.

Additionally, Barkus shows a device for controlling acceleration and deceleration of a centrifuge. Barkus does not overcome the failings of Giebeler and thus the combination of Giebeler and Barkus cannot be said to teach or suggest the present invention. Therefore, Applicants respectfully request that the rejection to claims 1-21 be removed.

The Examiner rejected claims 1-21 under 35 U.S.C. § 103(a) as being obvious over United States Patent Nos. 5,650,578 or 5,600,076 to Fleming *et al.* (hereinafter referred to as “Fleming”) in view of United States Patent No. 6,204,627 to Watanabe *et al.* (hereinafter referred to as “Watanabe”).

Claim 7 recites, *inter alia*, a modulation controller configured to modulate an amount of torque generated by the motor and thereby modulate the rotational speed of the rotor; a speed sensor configured to sense the rotational speed of at least one of the motor and the rotor, and transmit the sensed rotational speed to the controller; and wherein the controller is configured to

determine an amount of kinetic energy associated with the rotor in response to the amount of torque and the sensed rotational speed, and is configured to compare the amount of kinetic energy associated with the rotor to a predetermined amount of kinetic energy, the controller being further configured to reduce the rotational speed of the motor in response to the compared amount of kinetic energy associated with the rotor being greater than the predetermined amount of kinetic energy. (See paragraphs 24 and 29 of the specification.)

Claim 14 recites, *inter alia*, means for modulating torque being applied to the rotor in response to the first kinetic energy exceeding the predetermined amount of kinetic energy, wherein the rotor is spun at a relatively slower rotational velocity than the first rotational velocity.

Claim 18 recites, *inter alia*, the step of modulating torque applied to the rotor in response to the first kinetic energy exceeding the predetermined amount of kinetic energy wherein, the rotor is spun at a relatively slower rotational velocity than the first rotational velocity.

However, Fleming shows a device for monitoring energy associated with a centrifuge and is silent on any modulation control teachings. Fleming primarily teaches calculating the energy of a rotor with respect to a predetermined energy reference. If the energy of the rotor substantially exceeds the energy reference, then the rotor is stopped via a switch. (see Col. 6, lines 47-60).

Fleming teaches away from modulating torque as presently claimed. In fact Fleming shows that switch 40 is thrown by a control signal if the energy of the rotor exceeds the energy reference thereby interrupting power source 38 from supplying further energy to the rotor, *i.e.*, the rotor simply slows and stops and is not modulated as claimed in the present invention. Thus, it cannot be said that Fleming teaches or suggests the present invention.

Additionally, Watanabe shows a device for controlling a motor with speed controls.

Watanabe does not overcome the failings of Fleming and thus the combination of Fleming and Watanabe cannot be said to teach or suggest the present invention. Therefore, Applicants respectfully request that the rejection to claims 1-21 be removed.

Since claims 8-13, 15-17 and 19-21 depend from allowable claims, these claims are allowable as well. Therefore, Applicants respectfully request that the rejections as applied to these claims be removed.

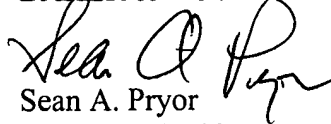
CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests the withdrawal of the rejections. If, for any reason, the Examiner disagrees, please call the undersigned agent at 202-861-1748 in an effort to resolve any matter still outstanding before issuing another action. The undersigned agent is confident that any issue which might remain can readily be worked out by telephone.

In the event this paper is not time filed, Applicant petitions for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036.

Respectfully submitted,

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